

What is claimed:

1. A capacitor, comprising:
a housing, the housing comprising dimensions that conform to standardized battery dimensions; and
a capacitor cell, the cell disposed in the housing and electrically coupled to the housing.
2. The capacitor of claim 1, wherein the housing comprises a standard D-cell sized battery form factor.
3. The capacitor of claim 1, wherein the housing comprises a C-cell sized battery form factor.
4. The capacitor of claim 1, wherein the housing comprises an AA-cell sized battery form factor.
5. The capacitor of claim 1, wherein the housing comprises an AAA-cell sized battery form factor.
6. The capacitor of claim 1, wherein the housing comprises one or more connectors, wherein the one or more connectors comprise standardized battery connectors.
7. The capacitor of claim 1, wherein the capacitor cell comprises a double-layer capacitor.
8. The capacitor of claim 7, wherein the double-layer capacitor comprises a dry particle based electrode.
9. The capacitor of claim 7, wherein the double-layer capacitor comprises a dry particle based rolled electrode.

10. The capacitor of claim 7, wherein the double-layer capacitor includes two collectors, wherein the two collectors and the housing comprise substantially the same metal, wherein the collectors are electrically coupled to the housing.
11. The capacitor of claim 1, wherein the capacitor comprises a nominal maximum operating voltage of about 2.5 to 3.0 volts.
12. The capacitor of claim 1, wherein the capacitor comprises a capacitance of about .1 Farad or above.
13. The capacitor of claim 1, wherein the capacitor comprises a specific energy density at about 2.5 volts of less than or equal to about 6.5 Wh/kg.
14. The capacitor of claim 1, wherein the capacitor comprises a specific power density at about 2.5 volts of less than about 8700 W/kg
15. The capacitor of claim 2, wherein the housing comprises an outer diameter of 33 ± 1 mm and a height of 61.5 ± 2 mm.
16. The capacitor of claim 1, wherein the housing comprises a standardized power tool battery sized form factor.
17. A double-layer capacitor, comprising:
 - a housing, the housing comprising dimensions that conform to standardized battery dimensions; and
 - a double-layer capacitor electrically coupled to the housing within the housing.

18. A method of making a battery sized capacitor, comprising the steps of:

- providing a double-layer capacitor;
- providing a battery sized housing, the housing including an open end;
- inserting the double-layer capacitor into the open end of the housing; and
- sealing the open end of the housing.

19. A capacitor, comprising

- a double-layer capacitor; and
- housing means for housing the double-layer capacitor.

20. The capacitor of claim 19, wherein the housing means comprises a battery form factor sized housing.

21. A battery sized energy storage device, comprising:

- a housing; and
- a rolled electrode, the rolled electrode including two collectors, wherein the two collectors and the housing comprise substantially the same metal, wherein the collectors are coupled to the housing to form an electrical connection.

22. The battery sized housing of claim 21, wherein the electrical connection provides a polarity independent path for application of energy to the energy storage device.

23. The battery sized housing of claim 21, wherein the energy storage device comprises a double-layer capacitor.

24. The battery sized housing of claim 21, wherein the electrical connection may receive energy with positive or negative polarity.
25. The battery sized housing of claim 21, wherein the electrical connection comprises a laser weld.